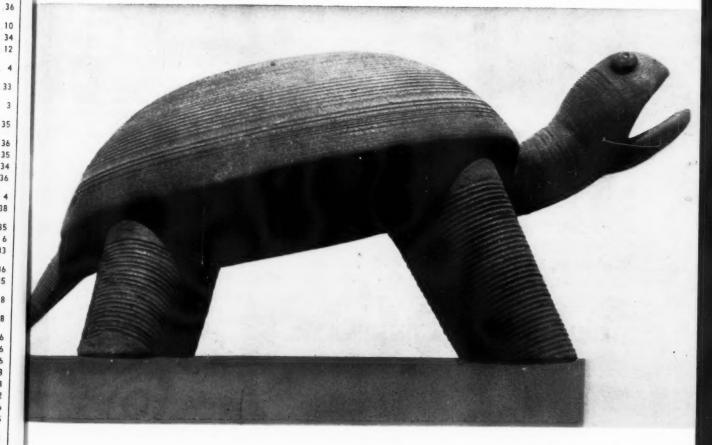
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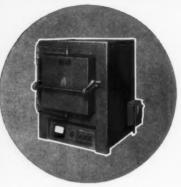
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VOLUME 9. NUMBER 3

MARCH

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ON OUR COVER: Irene Kettner's wheel-thrown animal sculpture is the subject of this month's feature article. Step-by-step photographs and instructions illustrate how she assembled the earthenware turtle, as well as other animal forms. Her article, "Wheel-Thrown Animal Sculpture," begins on page 14.

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Questions

Conducted by the CM Technical Staff

The atomizer I use for spraying gum solution in my copper enamel work keeps clogging. Can you suggest anything that might help me?—A. L., Atlanta, Ga.

The gum solution may be too thick, or it may be that you aren't cleaning the atomizer thoroughly after each use. Run clean water through it immediately after use.

What gauge of copper do you recommend for use in enameling work?—Mrs. W. B. F., Winnetka, Ill.

Depending on the size and shape of the piece being made, 14-to 22-gauge copper generally is used. For most purposes, 18gauge copper is recommended.

Why does the gum solution "bead" on copper, even after a very thorough cleaning? This makes an even dusting with the enamel almost impossible.—M. L., Roselle Park, N. J.

Beading of the gum solution is an indication that there is some grease remaining on the metal. This might happen even after an acid bath. You might try scrubbing the surface with a detergent after the acid bath; however, be certain that you wipe this off very thoroughly before applying the gum solution—D. R.

Can you suggest a means to prevent underglaze from running when fired? I already have tried bisque firing before applying the glaze, but without success.—Sr. L. A., Montreal, Quebec

Your problem is with the glaze, since underglaze will not flow. Perhaps your glaze is too fluid, and attacks and carries the underglaze when it runs. Your glaze application might be too thick, or your firing temperature might be too high for the glaze you are using. Since your problem may result from any one or a combination of these, it is impossible to give you an exact answer.

I have been having difficulty with the use of my molds for casting. After a mold has been used for just a few times the castings won't release properly, but just stick to the walls of the molds. Do you know what I could be doing wrong?—E. L., Atlanta, Ga.

It sounds as if you are not allowing sufficient time to elapse between casting sessions. The molds must dry for a certain period of time before they are again used. There also is the possibility that your casting slip is not properly deflocculated and is causing undue water soaking of the molds.

I have been told that it is most harmful to an electric kiln to do reduction firings in it. I don't do reduction firings very often, but I don't want to ruin my principal piece of equipment. Can you advise about this?—K. L., New York, N.Y.

There does seem to be some deterioration of the kiln elements from excessive use of the electric kiln for reduction firings. However, there should be no noticeable damage from the reduction schedule you seem to be using. Be certain that this firing is done in a well-vented room, as there are vapors given off that must be allowed to escape.

All subscriber inquiries are given individual attention at CM; and out of the many received, those of general interest are selected for answer in this column. Direct your inquiries to the Questions Editor; please enclose a stamped self-addressed envelope.

Letters

Share your thoughts with other CM readers—be it quip, query, comment, or advice. All letters must be signed, but names will be withheld on request.

Address: The Editor, Ceramics Monthly, 4175 North High St., Columbus 14, Ohio

TRAVELING EXHIBIT BOOKED

Thank you for the publicity you gave our Traveling Exhibit in the December issue of Ceramics Monthly. We have had inquiries from Delaware, Ohio, Indiana, Nebraska and as far west as Spokane, Washington, all due to your article.

RUTH N. BUNNELL The Society of Connecticut Craftsmen West Hartford, Conn.

LET'S GET TOGETHER

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For many years now I have been reading Ceramics Monthly and for a few years I have been doing articles for this fine magazine. I have never before taken the time to write a letter to the editor and I do so now only because I have read just one too many of those pro and con letters concerning your articles and to just what part of the ceramic scene they might appeal.

In the past six years I have traveled, by every available means of transportation, to every major and most minor cities of the United States and to Mexico and Canada as well. I have held ceramic workshops and seminars in such places as uni-

versities, private studios, military installations, homes and converted two-car garages. It is exciting, interesting work, primarily because I find that all people who like to work with their hands in earth possess a certain wonderful philosophical quality, and also because I get a composite view of the entire ceramic scene. I ask and answer many questions and, since when one teaches one learns, I hope that the following information may be helpful.

To the hobbyist I would like to say that the art of ceramics or pottery-making is, first and foremost, that of fashioning an original form from raw clay by such methods as throwing on the potter's wheel, slab building, coiling, etc. Therefore, unless one totally creates a ceramic piece, that piece cannot be entered in a show of original work. In the same way, one would not enter a boxed-cake-mix cake in a national baking contest, even though the frosting were original. On the other hand, hobby shows, in which greenware is being used and exhibited, should be judged on the basis of the quality of the decoration, except in those cases where original work is demanded.

The studio or art potter must understand that many of the so-called hobbyists are truly interested in handmade pottery. Many of them want to try working with a wheel but do not have the space at home for one or do not have available to them an organized course or a teacher. One of my students in Oklahoma sat on the ground for seven hours on a chilly night, working on my portable wheel to learn the rudiments of throwing. She did this because for the first time in five years of interest she found a teacher and wheel in the same place. The hobbyist wants to learn and to advance; I know this because of the interest in my classes in design development, sculpture and slab building during the past three years. Whereas the art potter is an explorer and inventor dedicated to the deepest creative interest in his craft, the hobbyist is a person involved in the pure joy of producing an object by the most convenient means available.

The one thing that I find both hobbyists and art potters have in common is a great, intense interest in creating some-

Continued on Page 34



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Suggestions

from our readers

Flashlight to see Cones

The light of a flashlight, even a small pen flashlight, shown into the peepholes during firing makes it quite easy to see the cones. This works very well even at high temperatures.

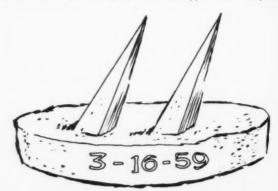
-Mrs. E. W. Rabon, Charleston, S.C.

Dental Mirror Useful

When pouring molds that have a lip or ledge at the top, I sometimes have trouble with small cracks that can't be discovered until after the bisque firing. I found that a dental-type mirror that I purchased for a very reasonable price in a hardware was very useful in discovering these cracks before the firing. It is much easier to touch them up with slip while the greenware is still damp. —Helen Robinson, Schenectady, N.Y.

Date Your Cone Pats

Here is a suggestion that I have found very useful. Many times I have forgotten to turn off the kiln at the proper time, and then later on I wanted to know the approximate tempera-



ture on pieces that were in the kiln on one of these overfirings. Now I scratch the date on the clay pat that holds the cones, and save the used pats if the firing is over or under the exact temperature desired. This is particularly useful, since we always date the pots we make.

—Don J. Boehm, Hamilton, O.

Instant Slip

To save opening a jar and washing a brush when joining pieces of clay, keep some slip in an old plastic squeeze glue bottle. After serrating the edges of the pieces, just squeeze the slip from the bottle onto the roughened parts and join. It doesn't spill and is always handy.

-Sister Mary Rosalie, San Francisco, Calif.

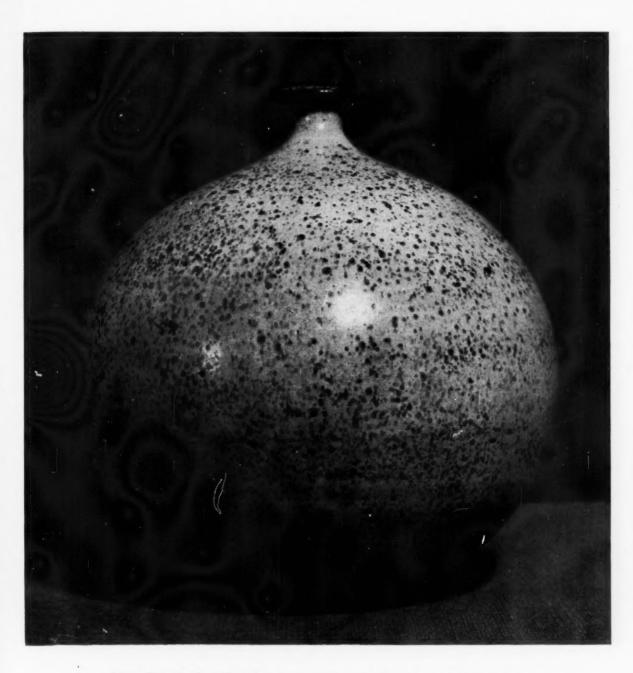
Use for Old Shaving Brush

An old shaving brush is ideal to use for applying glazes. It really guarantees a creamy, smooth job. I especially like this for glazing the inside of a bowl.

-Sally Remaley, Hobart, Ind.

Dollars for your Thoughts

CM pays up to \$5 for each item used in this column. Send your bright ideas to CM, 4175 N. High St., Columbus 14, O. Sorry, but we can't acknowledge or return unused items.



CM's Pic of the Month: Stoneware Bottle by Dean Strawn, Riverside, California, was exhibited in the 18th Ceramic National and was one of the award winners in that show. The piece, which is 12 inches high, is an example of simple, good potting in which the ceramist abstained from decorating except for the dark specks on the surface and the dark lip at the top of the form. The union between form and glaze makes this bottle an outstanding example of contemporary American pottery.

C.



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March 18—April 23 Second Biennial California Craft Exhibition, sponsored by the Creative Arts League of Sacramento, is open to California artists. Media: pottery, mosaics, enamels, glass and jewelry. Specific information concerning entry dates, media, jury and prizes may be had from: Creative Arts League, The E. B. Crocker Art Gallery, 216 O St., Sacramento.

CONNECTICUT, NEW LONDON

April 23-May 14

Prestige Show, sponsored by the Society of Connecticut Craftsmen, will be held at the Lyman Allen Museum. Members of the Society are invited to submit three articles which will be juried for acceptance by the standards committee. Three judges will jury the entire final show.

KANSAS, WICHITA April 15—May 22 *The 16th National Decorative Arts-Ceramics Exhibition, open to all American craftsmen, includes ceramics, mosaics, hand-wrought and stained glass, jewelry and enamels. Fee: \$4; Awards: \$2000. Work due between March 1 and 14. Write: Maude G. Schollenberger, 401 N. Belmont Ave., Wichita.

KENTUCKY, LOUISVILLE

April 1-30

1961 Art Center Annual, at the J. B. Speed Museum, sponsored by the Art Center Association. Open to artists of Kentucky, Southern Indiana and others within 100 miles. Media include crafts. Entry cards due March 10. Write: Mrs. Nelle Peterson, 2111 S. First St., Louis-

MASSACHUSETTS, WORCESTER

"Massachusetts Crafts Today-1961" is the title of the exhibition to be held at the Craft Center. Competition is open to members of the Massachusetts Association of Craftsmen, and deadline for entries is March 18. For details, write the Association, 25 Sagamore Road, Worcester 5.

NEW YORK, DOUGLASTON May 7—20

165

LY

*Spring Exhibit of the Art League of Long Island is open to all artists. Media include ceramics and small sculpture. Fee: \$5; Jury. Entry cards and work due April 15. Write: Louise Gibala, Art League of L. I., 44—21 Douglaston Pkwy., Douglaston.

NEW YORK, ROCHESTER

April 13-23

Religious Arts Festival sponsored by Central Presbyterian Church is open to all artists. Sculpture, enamel and mosaic included. Fee: \$1 for each entry; Jury; Prizes. Write: Religious Arts Festival, 50 Plymouth Ave. N., Rochester.

OHIO, AKRON

March 10-April 16

The 38th Annual Spring Show of Artists and Craftsmen of the Akron Area, at the Akron Art Institute. Craftsmen living in Summit, Portage, Medina, Stark and Wayne counties are eligible. Craft categories include decorative objects, jewelry, useful objects. For entries, write: Akron Art Institute, 69 East Main St.

OHIO, TOLEDO

43rd Annual Toledo Area Art Exhibi-tion, to be held at the Toledo Museum of Art, is open to present and former residents of Ohio. Media include ceramics and other crafts. Fee: \$3; Jury; Cash awards. Entry cards and work due April 13. Write Mrs. JoAnn Cousino, 3717 Indian Road, Toledo.

TENNESSEE, MEMPHIS

May 5-28 The Second Biennial Mississippi River Crafts Show, sponsored by the Memphis Branch of the American Association of University Women, is open to craftsmen residing in states bordering the Mississippi River. Categories include ceramics, enamel, glass and mosaic. Prizes; entry fee. Deadline for entries: April 3. Entry blanks and information available from: Mrs. Robert A. Crenshaw, 5312 S. Angela, Memphis.

UTAH, SALT LAKE CITY

April 2-30

First Utah Designer-Craftsmen Show, to be held at the Art Barn, is open to residents of U:ah. After its initial showing, the exhibit will be displayed in Ogden, Cedar City, Provo and Logan. Media include ceramics. Jury; Awards; Fee: \$3 for five entries. For information, write: Jennifer Giddings, Box 730, Rt. #1. Sandy, Utah.

WEST VIRGINIA, HUNTINGTON

April 23-May 28

Ninth Annual Exhibit at the Huntington Galleries. Open to artists of West Virginia and to artists of Ohio and Kentucliving within 180 miles. Media include crafts. Entry forms due March 29.

SPECIAL FOR HOBBYISTS

COLORADO, DENVER

May 6-

Eighth Annual Ceramic Exhibit of the Rocky Mountain Ceramists Association, to be held at the Colorado Grange Building, will feature a hobby competition. For information write: George Lit-trell, Publicity Chairman, 1100 S. Gilpin St., Denver 10.

GEORGIA, ATLANTA

Seventh Annual Show of the Georgia State Ceramic Hobby Association is open to all ceramic hobbyists in the state. The show will feature a special creative category for members. Registration cards are

Continued on Page 35

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The LIVELY ART of EARTHENWARE

by KARL MARTZ

"A MATTE GLAZE OF MANY COLORS"

THIS zinc-bearing matte glaze has been used with consistently satisfactory results for a number of years in my classes. I think you will enjoy trying some of its many colors.

uv!

It is an opaque glaze maturing at cone 04 with a smooth textured, pleasant feeling surface. Apply it in a coat of medium thickness as evenly as possible. It is essentially non-flowing which makes it useful for many glaze painting effects.

CONE 04 IVORY WHITE MATTE

GLAZE NO. 316.	
White Lead	37%
Flint	20
Zinc Oxide, calcined	14
Powdered Glass	11
E.P.K. Kaolin	6
Ball Clay	6
Titanium Dioxide	3
Tin Oxide	3
	1000

To minimize crawling and harden the surface against the handling it undergoes during some of the decorating processes, use, as a binder, 1 teaspoon of Karo syrup for each 100 grams of glaze, dry weight.

Cobalt blues develop strongly in glazes containing as much zinc oxide as this one and as little as 0.05% cobalt oxide produces a light blue. In preparing small batches of this color it is often convenient to make use of a dry mixed raw glaze stain of the following composition, such as I described in the May, 1960 issue of CM:

RAW Cobalt O	GLAZE	STAIN	NO.	56 10%
Nepheline				90

Raw Stain # 56	0.5%	Light Blue
Raw Stain # 56	2.0	Medium Blue
Cobalt Oxide	0.7	Bright Blue
Cobalt Oxide	2.0	Strong Blue

Modifying cobalt with nickel grays the blue. This stain contains cobalt and nickel in the proportion of 1 to 10:

RAW GLAZE Cobalt Oxide	STAIN	NO.	42 7%
Nickel Oxide			70
Nepheline Syenite			23
			100%

Raw Stain # 42	3.0%	Medium dark gray-blue
Copper Oxide Raw Stain # 42	1.0	Gray Green

Modifying cobalt with copper throws the color towards the green part of the spectrum. This stain contains cobalt and copper in the proportion of 1 to 5:

RAW GLAZE STAIN NO	0. 69
Cobalt Oxide	6%
Copper Oxide	30
Nepheline Syenite	64
au Stain #60 25% Greenie	100%

Raw Stain #56 1.0 | Cool Blue Raw Stain #69 2.0 |

Ebony Manganese, which is granular, stirred into any color of this glaze will produce pleasing dark speckles:

Ebony Mang., 60-80 mesh	0.5%	Oatmeal
Copper Oxide Ebony Mang.	2.0	Medium Speckled
60 90	05	Green

A speckled blackish green results from this combination of colorants:

Copper Oxide		2.7%
Manganese Dioxide	(pwd.)	1.0

Granular copper oxide, 0.5%, produces greenish-black speckles on a white background. Prepare the granular copper oxide by firing a wad of bare copper wire to cone 04. This oxidizes the copper which is then broken up in a mortar and ground until it passes an 80-or 100-mesh screen, A little of this goes a long way.

Many commercial glaze stains work very well in this glaze. Here are a few suggestions:

Tin Vanadium Yellow Stain 5.0 Copper Oxide 0.6	
Zirconium Turquoise Stain 5.0 Ebony Manganese, 60-80 mesh 0.5	Turquoise
Chrome Alumina Pink Stain 7.0 Ebony Manganese, 60-80 0.5	}
Tin Vanadium Yellow Stain Copper Oxide Red Iron Oxide Ebony Manganese, 60-80 4.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0	Speckled Mustard
Copper Oxide Tin Vanadium Yellow Stain 4.0	Lime
Raw Stain #56 1.0 Chrome Alumina Pink Stain 5.0	Orchid

Chrome alumina stains work better than chrome tin stains in glazes which include zinc oxide in their compositions.

Iron yields brown colors in zinc bearing glazes:

Red Iron Oxide	2.5%	Brown
Red Iron Oxide	3.0	C P
Raw Stain #42	1.0	Gray Brown
Red Iron Oxide	5.0	Red Brown
Chromium	03	Ked brown

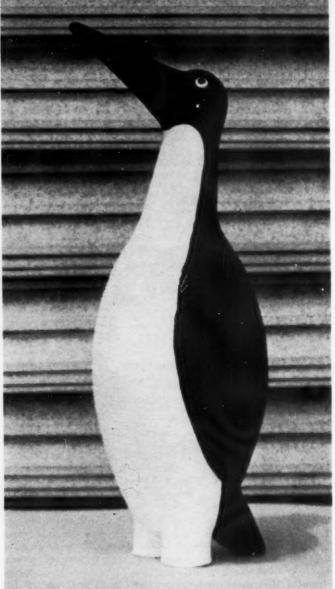
Wax resist painting is an effective method of decoration with this glaze. Spray on a medium coat of one of the lighter colors. Paint the design in wax and, when this is dry, brush over all of it one of the dark colors. To keep the design strong be sure there is a strong value contrast between the two colors. This pronounced light-dark contrast is fully as important as the color selection.

Wax resist sgraffito is also good. Spray on a coat of glaze and cover it —or large areas of it—with wax. Incise the design through the wax. Then brush the second color into the incised lines.

If you prefer a majolica painting technique of brushing a dark color directly onto the lighter base coat, make the brushing color extra dark to allow for the diluting that takes place in the fire when the light color blends with the dark.

Good color combinations are graybrown over oatmeal, brown over yellow, blackish-green over a medium speckled green, and cobalt blue over turquoise or light blue.

You can discover many other beautiful color combinations using this glaze in your own studio.



For detailed descriptions of the construction and finishes of the wheel-thrown animal sculpture pictured on these pages, please turn to pages 16 and 17.

WNIMAL SCULPTURE

by IRENE KETTNER

WHEEL THROWN animal sculpture offers the potter numerous possibilities. Even though any particular animal form is repeated many times, its originality still may be maintained by making changes in its position or expression, by varying the clay bodies or textures and by using various decorating techniques. This freedom of design and decoration makes each animal an original.

In some instances animal sculpture may be enhanced by the use of an underglaze, engobe or glaze decoration; in other instances the unglazed clay body may be preferred to emphasize the vitality of the throwing marks. However, if the work is intended for use outdoors and is left unglazed, it is important to fire the body to its full maturity to make the clay impervious to moisture. A porous body, when exposed to moisture and cold, has a tendency to crack.

Before giving a step-by-step description of making a piece of wheel-thrown animal sculpture, there are some general instructions I would like to emphasize.

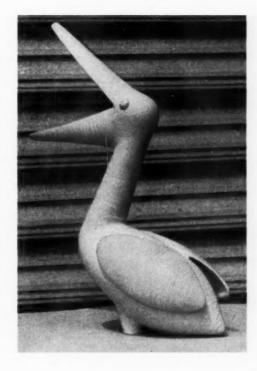
Always begin by making some rough sketches of the desired figure. From these sketches determine the number of thrown forms that will be necessary to complete the project, then plan in advance the procedure for throwing each individual part. These preliminary sketches also are valuable in determining the proportion of each part in relation to all others needed to complete the animal.

In most cases it is best to build *outward* from the body or main section of the animal. This part is thrown first, and the remaining forms are made in scale to it. That is, the neck is added to the body, the head is added to the neck, etc. The sequence for throwing all forms is established in this manner.

If any thrown part is to attach to any other part in an angular position, make that secondary form slightly longer since it will have to be cut to fit. Also, appendages that are to join the parent form should be flared outward slightly in order to give a feeling of unity when they are joined.

If any form needs to be bent or reshaped, this should be done immediately after that part is thrown, while the clay still is in the plastic state. A steady, gentle pull is necessary to avoid distortion of the original thrown form.

Any form that requires turning or tooling should



be allowed to stiffen until it can be removed easily from the bat. Then it is centered on the wheel and trimmed.

All parts should be of uniform thickness, and they should be of the same leather-hard consistency when assembled if cracking and distortion during the drying period is to be prevented.

Puncture air vents in any closed forms to permit air to escape during the drying and firing processes. Vent holes in the body section can be hidden by placing them where the hollow cylinder legs attach.

Score all connecting areas with a knife and apply thick slip on these scored areas. After joining the surfaces, clean off any excess slip. A small coil of clay may be blended around these joints.

Modeling and carving can be done if the potter decides that it will enhance the finished product. But this treatment should be kept at a minimum if the wheel-thrown quality is to be retained.

The assembled animal sculpture should be allowed to dry very slowly to prevent any possible cracking.

The turtle was made from earthenware clay and was fired to cone 03. The photographs show the procedures used in making this creature.

Please Turn the Page

Step 1. All the parts necessary for making and assembling the turtle are thrown on the potter's wheel. Sizes and proportions are kept in mind by referring to the original sketches made before starting the clay work. All thrown parts are textured with hacksaw blades immediately after being thrown. A fine-toothed blade is used for the neck-head form, the tail and bottom bowl section. All other parts are textured with a coarse blade.

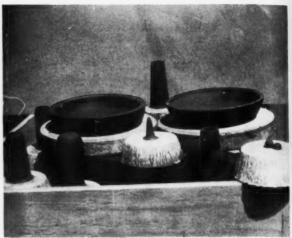
Step 2. The main body section of the turtle is made from two bowl shapes having the same rim diameter. The bases of these are tooled and textured on the wheel when they are leather hard. The rims are scored and smeared with thick slip to effect a secure joining of the two pots.

Step 3. The top bowl is inverted and placed on the rim of the bottom part and the two forms are pressed together firmly and carefully. When this is accomplished, the body section of the turtle is complete.

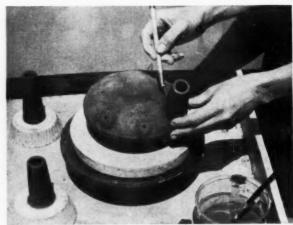
Step 4. The bottom of the turtle body is turned upward for the completion of the assembly. Areas that are to receive the remaining parts are marked and scored for attachment. Vent holes are punctured with a small carving tool in the center of each scored area. The legs next are cut to fit the contour of the body section and these are coated with slip and attached. They were thrown longer than needed to allow for this cutting. A modeling tool is used to clear away excess clay and slip after attaching each leg.

Step 5. The small thrown eyes are attached and the mouth area is cut out and the mouth space is filled with thin sheets or slabs of clay. This detail work is completed before the head and neck section is welded to the body. With the addition of the head and tail, the turtle sculpture is finished and it is allowed to dry very slowly.

Step 6. The dark clay body of the turtle is sprayed with a black engobe after the sculpture reaches an advanced leather-hard stage. It is given a hard bisque firing and left unglazed. The finished piece has a dull, dark, velvety surface. It is fourteen inches long and six inches tall. •



Step 1. The component parts for making the turtle are shown after being thrown. Hacksaw blades were used to texture the clay.



Step 4. A leg is cut to fit the body contour, then is attached with slip. Vent holes are punctured through the body for air circulation.

The horse. The horse is 14 inches high and 11 inches long. It was made from a dark brown clay body. Cylinder forms were used to make the body, neck, legs and head. The legs, thrown slightly longer than needed, were thrown with the use of a dowel rod; when ready to attach to the body, they were fitted and applied. A lump of clay was placed underneath the body—between the four legs—to support the weight of the unfinished form while the remaining parts were added. This technique helped to avoid cracking or warping of the legs during this final work. The next step was to cut, fit and attach the neck cylinder to the body, and then to add to this the closed form for the head. The thrown ear and eye forms were attached, and a small thrown bowl became the chin. The tail was made from a thrown ring of clay, which,

when attached to the body, was slashed at its end for a feathery effect. The horse was allowed to dry very slowly on its supporting clay lump until it reached an advanced stage of leather hardness. After bisque firing the horse was waxed with a standard home floor wax to produce a soft luster finish.

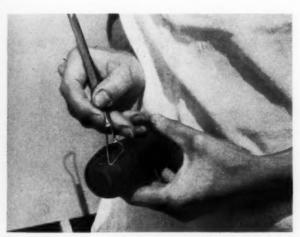
The penguin. All parts of the penguin were cylinder forms. The legs and tail were thrown slightly larger than desired, then were cut to fit and attached to the body. The neck and head, made in one piece as a thrown closed form, next was attached to the body. The thrown beak was fastened in place after piercing the head to vent the beak, and the eyes were applied to the head. The wings were cut and shaped from a single thrown



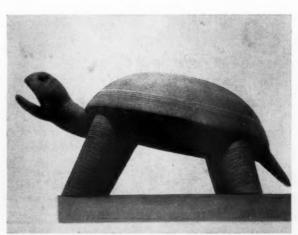
Step 2. The tooled and textured bowl shapes that are to form the body are scored at their rims and coated with thick slip.



Step 3. The rims of the two bowls are carefully pressed together to weld the parts into a new closed form that makes the turtle's body.



Step 5. The eyes are attached to the head-and-neck section before it is added to the body unit to complete the turtle sculpture form.



Step 6. Finished turtle sculpture is six inches high and fourteen inches long. Unglazed surface treatment retains saw-blade texture.

cylinder and were fastened to the body to complete the sculpture. After the bisque firing, the penguin was colored and waterproofed by applying black and white wax stains.

The pelican. All parts of the pelican were made from cylinder forms. The legs were cut and fitted to the body. The neck and head section, thrown in one piece, was next applied to the body. The beak was made from a cone-shaped cylinder cut in half, then attached to the head. The separate pieces of the beak were supported with sticks at the tips to prevent them from sagging while drying. A small opening was cut from the head section to suggest a throat and to ventilate the body cavity. The eyes were next applied, then the wings were cut to shape from a single cylinder and were attached to complete the

pelican sculpture. A two-tone pink finish of wax stain was used to color the piece. It is nearly 14 inches high.

The alligator and gila monster. All of the parts that made up the alligator and gila monster were cylinders. The tail sections were made from cone-shaped cylinders which were bent while the clay still was plastic. The head and neck sections were thrown as closed forms. After each mouth section was cut away, these areas were filled in with small clay slabs to shape the inner mouth. The heads, tails and legs were attached to the body forms, and the eyes were applied last. The brown clay body was bisque fired to cone 03, and resulted in a matt surface with uneven burnt areas from the firing. The alligator is five inches high; the gila monster is seven inches.

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n LY A MONG the many materials sent to me for evaluation in recent months, one in particular is outstanding. Very often a raw or processed product has great beauty and shows much promise, only to change so utterly during the firing tests to which I subject all new types of glass that it can only be classified as mediocre in the fused glass category. Indeed, enthusiasm runs high when exhaustive tests prove that firing retains or even enhances the original qualities. Such a glass is this particular flint in chunk form.

The chunk flint glass is massive in its bulk form, and it has great depth and sparkle even when reduced to small segments suitable for the technique illustrated in the accompanying photographs. It might be assumed, because of the characteristic bulk form, that firing time must be prolonged or that a higher temperature might be required for fusion. This is not the case, however. This is a low-melting glass which becomes molten at the prescribed 1500° F. heat required for most sheet glass. It has the added advantage of retaining its transparency and the characteristic whorls, called "onion peel," that are found in this glass (Figure 1). The individual chunks bond to each other with such strength that only a minimum fusion is necessary. An added advantage of this material is that either a typical mold for bent glass (as is used in this article) or any ceramic bisque mold can be used. There is no strain on either type of mold as there is in sheet glass formation.

The mold must be coated with a separator because glass becomes sufficiently viscous, at the firing temperature used, to effect fusion. Because of the hand placement of the chunks, dry sifted separators are unsuitable. Likewise, wet-charged separators which crumble or powder upon drying are ineffective. A commercial separator may be used, or perhaps a binder may be added to the liquid separator now being used. The coating of separator is more durable if it is applied with a brush instead of being sprayed onto the mold, although either method may be used (Figure 2). The mold should be thoroughly dried to eliminate the possibility of any condensation forming during the firing. This also provides a firmer lining for the placement of the irregular chunks.

The glass chunks are placed loosely in the mold, starting at the bottom of the mold cavity (Figure 3). This placement procedure provides anchorage for the chunks that are placed on the sides of the mold. If the mold sides slope very gently, the segments of glass will hold in place. Exact placement of pieces is unnecessary; however, pieces can be selected for similarity of size and shape to make a more solid wall. However loosely fitting the chunks are, the glass will fuse on contact.

The rim of the mold is covered with the irregular glass chunks to complete the lining process. It is advisable to apply a speck of glue at one or more places of contact on the adjoining chunks at the perimeter of the rim, since the glass pieces might easily become dislodged in handling the mold (Figure 4). Any glue can be used as long as it will fire out completely and leave no residue.

After the entire mold cavity is lined with glass chunks, the mold is allowed to dry overnight in order to permit the glue to strengthen the last rows of chunks.

The glass chunks are colored by being brushed with liquid glass colorants. The colorant must be liquid. Liquid glass is used here, being selected for its complete transparency. It will melt, so care is taken not to allow it to

KILN-FORMED GLASS

CHUNK FLINT GLASS

by KAY KINNEY



1. CHUNK flint glass is shown in various sizes. The characteristic whorls in the glass are retained in the firing.



4. A SPECK of glue can be used to adhere chunks of glass to one another when the rim of the mold is covered with glass.

seep between the chunks and onto the mold. This can be avoided in part by pouring off a little of the water before stirring the contents, leaving a thicker consistency of the liquid.

Since the higher points of the glass can receive a thicker coating of the stain to best advantage, brushwork is started at the junction of two or more chunks, and then is swept upward to end at the peak of each facet. The coloring used here is predominately turquoise, with a light chartreuse and emerald used for accent (Figure 5). Blending of one color with another is comparatively easy if the predominating shade (turquoise) is applied to all chunks in a light wash. After this preliminary wash, accent colors are lightly brushed on the desired areas and then all remaining portions are given a final second coating of the basic color.

Before firing the bowl, it is a good idea to test fire a few loose chunks of the glass to determine the correct fusing point for the individual kiln. In my kiln, which ordinarily bends sheet glass at 1450° F., the chunks bonded strongly at 1350°. I would therefore say that the firing for glass chunks should be about 100 degrees less than is required for bending.

The bowl shown in the photograph (Figure 6) was fired as outlined above, and it has been greatly admired for its conformation and the inherent qualities of the flint alone. It is not, however, waterproof. This is due to the quartz-like effect. If waterproofing is desired, it can be done. After the mold is lined, colored and ready for the kiln, fine crushings of the glass are spooned into all fissures to fill any openings that are apparent. The flint crushings need not be colored since they will pick up color from the sides of the large facets. If, after firing, all openings are not filled, more crushings may be added and the piece refired. The glass will take subsequent firings without danger of fractures.



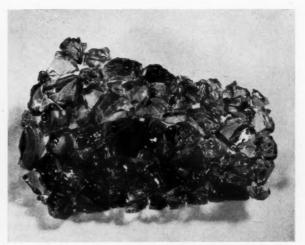
THE MOLD is coated with a separator to prevent the glass from fusing to it; it is allowed to dry thoroughly.



3. GLASS chunks are laid in the mold, starting in the center of the mold cavity and working toward the edges.



LIQUID glass color is brushed onto the chunks. This melts and fuses to the glass chunks during the firing process.



FACETS and whorls of the glass chunks impart a stunning brilliance and texture to the finished fused glass tray.

SHOW TIME

The Art Treasures Of Thailand

THE NATIONAL art treasures of Thailand are traveling abroad for the first time in the history of this ancient Asian kingdom. After its premiere showing at Indiana University, "Art Treasures of Thailand" was exhibited at the Metropolitan Museum of Art in New York. The next stop on its American tour is the Boston Museum of Fine Arts, where it will be on view from March 12 to April 23. Subsequent showings will be in Toledo, Los Angeles, Seattle, San Francisco and Honolulu.

More than half of the 300 objects on display are sculpture, the major Thai art form. The decorative arts include ceramics, which range from a subtle Thai version of celadon ware to an early, but surprisingly modern style in which glazes drip freely down the sides of massive urns. Many of the ceramic household objects are in the form of animals.

Several objects in this exhibit help to visualize the architecture. While stucco was the usual material for exterior detail, ceramics often replaced it. The head of the naga is one of a pair that stood at the lower corners of a pediment while their bodies writhed upward toward the apex.

In addition to the ceramics and sculpture, the display also features paintings, illuminated manuscripts, silks, jewelry, theatrical masks and puppets, and decorative objects in gold, silver and crystal. Assembled from the Royal Collections, the National Museum in Bankok, ancient monasteries, private collections and six other Thai museums, "Art Treasures of Thailand" spans 1400 years, from the 6th to the early 20th century.



BUILDING ORNAMENT from the 13th-14th century is ceramic used in place of the usual stucco for exterior detail. The head of a naga, or serpent, was used in religious architecture as a protective ornament.

PORCELAIN BOWL is an example of the 17th and 18th century ware made in China from Thai designs, and exported for the Siamese market. This five-colored pattern has designs of mythological figures, animals and floral designs. The inside of the bowl has a green background.





COVERED BOWL decoration resemfrom China. Work in the Sukhodaya working in Siam.

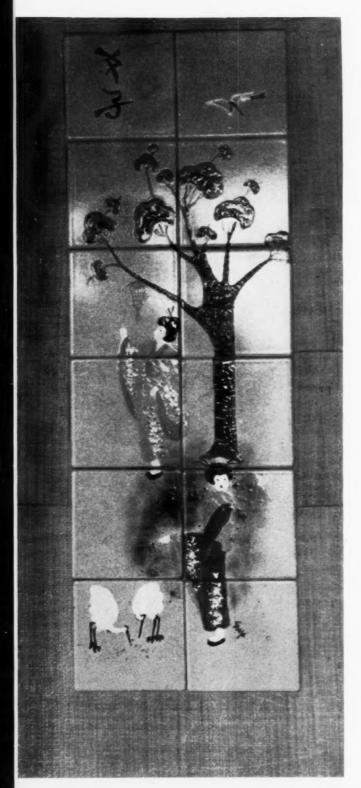
POT in the Form of a Rabbit is a bles the products of the Tzu-ch'ou kilns ceramic container with a silver lid. It is about five inches high. An example style was influenced by Chinese potters of the Lotburi style, it dates from the 11th to 14th century.



JAR is terra cotta of the Lopburi style (11th to 14th century) showing a strong Cambodian influence. It is partially covered with a dripped brown glaze.



FLOOR VASE has ten lobed ridges and a light greenish glaze. This vase is a relatively rare specimen of the Sukhodaya style, which flourished during the 13th and 14th centuries. Techniques for producing these wares were introduced by Chinese potters.



LARGE ENAME

by ELISE CHAPMAN

THE enamelist who has become tired of working on small pieces can quickly recover his enthusiasm by making a large picture or mural on steel tiles.

In addition to the fun of working more freely on a large surface, these mosaic-like projects result in showy, yet practical pieces. A large project might be used as a picture for the wall, a surface for a table top or a decorative section for a lamp base. Your own imagination will suggest many more uses for these large enameled works.

The tiles, which may be purchased ready to use, vary in size from two by four inches to eight inches square. They are made of thin steel covered with a base coat of vitreous enamel, either white or colored. This base coating of enamel may be utilized as background for your work, if you so desire, or it can be completely covered with the colors you want to use. There is just one precaution in working with these steel tiles: Since they are quite thin, all colors should be applied and fired in one operation. The tiles tend to warp or buckle under repeated firings.

Before starting a large project it would be a good idea to experiment with just one tile to better get an idea of what is involved and what results to expect. You might want to try a simple project like this: Using a white enameled steel tile, sift on some green enamel as a background and around the edges sift some darker green color. Now, wipe out some of the enamel with a brush to form an animal shape—perhaps a rabbit. Next, lay in some pink enamel for the ears and add two lumps of black for the eyes. A few black enamel threads can be laid in for the whiskers. To accent the figure, sgraffito around it and then add a few colored lumps of enamel to form flowers and leaves. Place this tile on the firing rack and fire for about three minutes at 1450° and see your results!

In starting a large project, first lay out your design on paper. Block in the tile size also so that you can tell just what portion of the design will go on each tile. When this is done, trace or sketch the design on the individual tiles with a pencil (Figure 1). If you decide that you want the design outlined, mix outlining black

MED PICTURES stiles



 THE design is executed in color on paper that is marked off into areas the size of the tiles. Then the design is sketched onto the individual tiles with a pencil.

color with China medium and apply to the tiles with a brush. This must dry overnight before continuing with the application of the enamels.

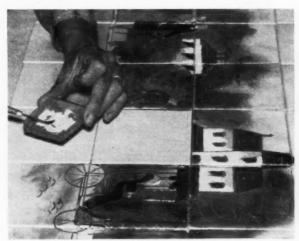
When you are ready to apply the colored enamels, brush a thin coating of oil around the edges of the tiles, where they turn down. Loose enamel might easily become dislodged from these areas in the process of moving the tiles or in lifting them onto the firing racks.

The enamel can be applied to the tiles in any method that seems applicable to the design you are creating. Sifting and wet-inlay are the methods that you are most likely to choose (Figure 2). A paint brush can be used to remove enamels from areas where they aren't wanted after being sifted on. For special effects, sgraffito lines may be made through the enamel at this time. Lump enamels may be added, but the lumps used should not be too large, because they may pop off the tile surface after the firing.

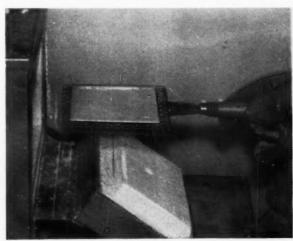
You may want to work on a single tile at a time or work over the whole design at the same time. How you decide to proceed will depend on the effect you want to achieve.

The completed tiles are placed on the firing rack one at a time and put into the kiln for firing (Figure 3). Do not fire these prépared tile at too high a temperature because the background color may fire out! I would suggest that you not fire over 1450°F. Firing time is about three minutes. When the enamels are mature, remove the tile from the kiln and place it under a large flatiron or other weight to prevent warping. If a gold firing is desired, be careful that you don't overfire.

To mount your finished picture tiles, obtain a sheet of plywood of the size wanted to hold the finished picture tile. Cover this with an adhesive or tile cement, then press the tiles down into place and weight them until the cement is dry (usually overnight). The tiles may or may not be grouted, depending on the use of the finished article. Burlap or grass cloth might be added around the tile to act as a textured matt, or the tile picture might be set into a wooden or metal frame. However you use it, your tile plaque is sure to be a showpiece in your home.



2. ENAMEL is sifted onto the tiles for the background colors. This is picked up with a brush where it is not wanted, and replaced with enamels for the desired design.



3. THE enameled tiles are fired at 1450 degrees F. for about three minutes. Taken from the kiln, the thin tiles are placed under a heavy flatiron to keep them from warping.

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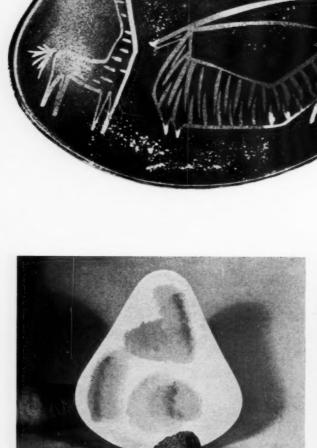
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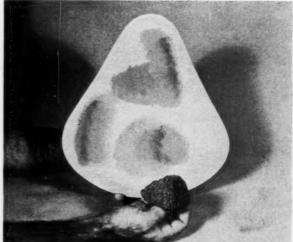
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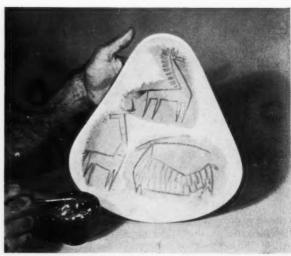
Marc Bellaire Demonstrates

BRUSH STROKE DECORATION USING WAX RESIST





OPPOSITE ends of a silk sponge are dipped into two colors of underglaze. By reversing ends and overlapping the colors, Mr. Bellaire gets a vari-colored and textured background.



THREE animals are brushed over the background areas using wax-resist emulsion. The figures of the yak, horse and deer almost completely fill in the surface area of the greenware shape.

THE POPULARITY of the wax-resist process with decorators is easily explained because there are so many ways to use it and because there are so many varied effects possible. In the October 1960 issue of Ceramics Monthly, Marc Bellaire demonstrated one of the popular techniques for use with wax resist. Wax was applied over the entire surface of the greenware and a sgraffito decoration was cut through it. When the cut design was filled with underglaze, the result was a sharp, crisp line.

This month Mr. Bellaire shows how to create a design with wax that preserves the brush stroke quality that all decorators prize. This technique emphasizes a free brush effect that is in marked contrast to the tighter,

more controlled result from sgraffito.

Mr. Bellaire selects a piece of greenware in a freeform shape that resembles a bicycle seat or saddle. To emphasize this triangular shape, he decides to decorate it with three different animal shapes. Since these are to be executed in brush strokes in wax, he first sponges on some background color. The purpose of this is to relieve the whiteness of the greenware that will show through in the finished piece, and also to prevent the brushed wax design from assuming a stencil effect.

Since the theme of the decoration is animals, Marc Bellaire selects color in keeping with the subject. He prepares red-brown and medium-brown underglazes by thinning them with a little bit of water. Selecting a soft silk sponge, he dips one end in one color and the opposite end in the other color. This color is applied to the three general areas he has selected for his animals by overlapping the two ends of the sponge as they are patted onto the greenware. This technique gives darker and lighter areas of color on the surface of the piece. Note, however, that Mr. Bellaire covers only general areas, leaving some areas uncolored. This will keep the animal shapes from appearing monotonous, and will add sparkle to the finished piece.

The three animals—a vak, a horse and a deer—are

painted in wax over the sponged background colors. The strokes are bold, almost completely filling in the surface of the saddle form. The brush strokes in wax are executed in the same way as they are for underglaze, and the most assured-looking decoration is one showing quick, decisive brush action. The artist should not be afraid to let the strokes wander off the background areas of color.

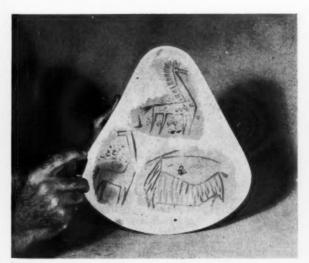
The wax is an emulsion that is water soluble, so if it is too thick for your use don't be afraid to thin it with a small amount of water. One coat of wax covers; don't go over lines! Brushes can be cleaned of the wax by wash-

ing them in soap and water.

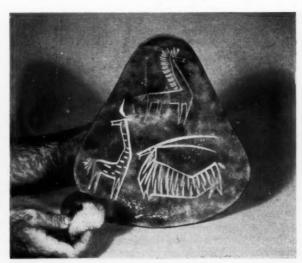
The wax is used again, this time with a stiff stencil brush, to spatter the surface. The purpose of this step is to add texture and color to the new background color that will be applied next. Both applications of wax will resist this color. The brush is dipped into the wax, then the wax is spattered on the greenware surface by flicking a finger over the ends of the bristles. The brush must be held rather close to the clay surface for the best effect, and some experimentation may be necessary to place the spatters of wax just where they are wanted.

Mr. Bellaire's final decorating step is to dip the silk sponge into a dark brown underglaze and carefully pat the color over the entire top surface of the piece. If desired, this same color can be sponged over the bottom surface too. This sponging of color can be done immediately after the wax processes. The wax resists the underglaze, leaving the brushed design and the wax spatters free of this last color application. Mr. Bellaire warns to pat, not smear, the underglaze over the wax! The sponged colors beneath the exposed animal figures combine with the wax spatters to give excellent color and texture.

Glaze won't adhere to the wax, so a bisque firing is necessary before the piece is glazed. The wax burns away completely in this first firing. Mr. Bellaire selects a transparent matt for this piece, one which shows off and enhances the warm monochromatic colors of underglaze used on this saddle shape.



WAX is spattered over the entire surface to achieve a textured effect after the next step. Both the wax brush lines and the spatters will resist the final background color that goes on next.



DARK underglaze color is sponged over the whole top surface of the saddle shape. Waxed areas reveal the warm, varied colors and the unusual textures in the freely-executed animal designs.

TESTING FRITS FOR GLAZES

by F. CARLTON BALL

STONEWARE potters are quite dependent on the use of raw glazes, so much so that many of them are unfamiliar with frits and the sources of supply for frits. There are three large supply companies that I know about that manufacture frits. They are: The Ferro Corporation, Cleveland, Ohio; The Pemco Corporation, Baltimore, Maryland; and the O. Hommel Company, Pittsburgh, Pennsylvania.

These frit manufacturers constantly are working on their products and new frits are being made to replace others as they become obsolete. Some of the frits are made especially for specific companies to use and thus are not available for general use, but many others are obtainable. Your nearest ceramic supply dealer probably carries a series of the most popular frits from one or perhaps all of these companies. He can obtain the more unusual frits for you in a short time. The chemical analyses of many of the frits are available to potters, also.

For all potters interested in experimenting with fritted glazes, there is a very simple method of testing that should be of immense help. First, purchase a small quantity (one to five pounds) of quite a number of different frits. Next, prepare some clay test pieces on which to conduct the experiments.

Preparing the Test Pieces

On a piece of cloth, roll out some of your clay into a thin sheet. Use a round cookie cutter to cut a number of clay "cookies" from this clay sheet. To shape these into small test pots, prepare a simple mold by inverting a jelly glass and covering it with a piece of cloth. Fasten the cloth securely by tying it at the rim of the glass, and you have a crude but effective hump mold.

The clay pots are made by placing each "cookie" over the bottom of the cloth-covered glass and then molding the edge of clay over the glass to form a rough dish about one-half to three-quarters inches deep. Next, remove the clay "dish" and repeat the process until you have made dozens of these test pieces. When they are dry, bisque fire them.

Making the Frit Tests

With your bags of frit on hand and the bisque clay dishes prepared, you are ready to proceed with the tests. I suggest you use a bisque tile (either four or six inches square), a small thimble that is smooth on the inside, and a spatula. Dampen the tile thoroughly with water—but don't saturate it—and place a teaspoonful of frit on the tile. Spread and mix the frit with the spatula until it becomes slightly moist from contact with the damp tile. Now, pick up some moist frit on the spatula and fill the thimble gently, but don't pack it.

Label the bottom of one of the bisque dishes with a black underglaze pencil or a marking compound. Record the number of the frit, the name of the frit company and the cone number at which you intend to fire the test. Now place the thimble of frit upside down on the center of the inside of the dish test piece, hold it in place while you tap the top or side of the thimble, and then lift the thimble off the surface. A small, firm mound of frit now should be in place in the center of the dish.

Make at least two test dishes of each frit: one set to be fired at cone 09, 08 or 07, and the other in the range of cone 06, 05 or 04.

If you don't mind a little extra work, it is interesting to make a colored test of the frit. Take a speck of copper carbonate on the tip of a paring knife and blend this with the spatula into some frit on the bisque tile. The colored frit test is a help in learning something about the frit's appearance after firing. High lead frits will result in a green color and high alkaline frits will be turquoise.

Using the Tests

After two sets of tests on each frit are made and fired at two different low temperatures, the test pieces should be glued to a piece of mounting board and each test labeled completely and clearly. In this way you will have a permanent fired record of your frits that may be referred to for use in creating fritted glazes. Many of the tests will look like beautiful glazes just as they are. However, to make a useable glaze from these tests it is necessary to add from five to ten percent of kaolin to the frit. It also is a good idea to add some material such as Epsom Salts to the frit and water to keep the frit from settling and packing on the bottom of the storage container.

Following are descriptions of just a few of the interesting tests of fired buttons of frits.

Pemco Frit P-609, fired at cone 09, fused but held its molded shape. It resulted in an opaque, white satin matt texture (left). A pinch of copper



carbonate added to the frit gave just the slightest trace of blue-green color. At cone 04 (right), the button melted into a rounded lump of milky but shiny glaze.

Ferro Frit #3132, fired at cone 09, resulted in the button being puffed up to about twice its original size, with large, thin bubbles under the smooth.

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For The Schoolroom . . .

HANGING PLANTERS

by ALICE LASHER

Combine A Project
In Clay With The
Study Of Nature

FINISHED planter is suspended by four leather thongs (shoe laces). Growing inside is a philodendron; its trailing vines make it an obvious choice for a hanging basket planter.

A SMALL hanging planter is an excellent project for the classroom or for anyone who wants to combine hobbies of ceramics and indoor gardening. Children find that these swinging sculptures are fun to make; they also like to see them in use, suspended from the ceiling or an overhead lighting fixture at home or in the school-room. There is an added bonus in these pottery objects, since they are hung up out of the way of any general confusion and thus are assured of a long life not always granted to pieces displayed precariously on tables, window sills and benches.

There is a built-in challenge in the construction of hanging planters because they must balance correctly when in use. Children find that the final step, of drilling the holes by which the planter is to be slung, requires careful consideration of the way the piece is to appear when in use and in the air.

The teacher should find this project to be an excellent one for use in correlating an art project with other studies in the classroom. While it may be used to create objects that occur in the reading program, the most obvious relation is with some form of nature study. Observation of birds, fish or other creatures of nature can be translated into these clay images.

In addition to this correlation might be included the observation and a great deal of practical experience in the study of plants, since these pieces can have a very definite function. There is added incentive for working when the pieces are to have a real use. Specific plants must be considered for use in the planters in relation to the amount of soil they must have for good growth. The selection of the proper soil for a certain plant must be determined, as well as the amount of water it should have. Perhaps some plants will be chosen for their ability to grow in very little soil or in vermiculite or sphagnum. In general, these hanging planters have a minimum amount of space for holding soil, and the selection of plants must

Please Turn the Page

be considered very carefully.

There is a wide choice of methods for constructing these planters. If the clay class is working in any specific technique at the time—pinch pots, slab-building, draping or casting—it can be readily adapted to this project. And if all or part of these techniques have been used in class, the individual should be free to select the method of construction that he believes will give the best result for his particular selection of a form.

Techniques might also be combined. For example, pinch pots may have slab or coil additions for head, neck, tail and wings. Combining of two forms is possible, also, as in the case of a pinch pot being combined with a slab-

built piece.

Over-ornamentation of the form must be discouraged if the essential purpose of the form is to hold plants. If, however, the piece is considered primarily as a sculptural form, much detail may be considered desirable. Abstract forms give more emphasis to the planting used in the pots and realistic forms become essentially a piece of hanging, swinging sculpture.

The method illustrated here is slab-building with the use of pre-planned patterns. However, a much freer approach might be encouraged by having the children work directly in the clay and compose as they go. Whatever the method, the teacher must be sure that seams and attachments are given proper attention so that the work does not come apart during the drying and firing. Due attention also must be given to support of the pieces dur-

ing the construction and drying stages.

The only unusual step in the whole process is that of stilting or supporting the pieces during the glaze firing. Due to the nature of the planter's use, unglazed bisque is likely to show scumming on the surface after being exposed to damp soil for a long time. Therefore it is almost necessary to glaze at least the outside of such pieces. The best way I have found to stilt these forms for glaze firing is to invert them on a shelf post or on a pointed length of porous firebrick. By the use of the latter, the inside of the pieces also may be glazed. There are advantages and disadvantages to this total glazing, however. A pot glazed on the inside requires less watering, but there is always danger of rotting the plant roots from overwatering. If left just bisqued inside, the soil needs more frequent watering.

The glazed planters are completed by the addition of the soil, plants and the hanging arrangements.

The plants that we have used successfully in hanging containers are rather hardy types that have a tendency to drape or trail for the best visual effect. I would suggest Kenilworth ivy or any other small-leafed ivy; babies' tears (Helxine); Oxalis, which is started from a bulb and which grows well in a shallow container with a minimum amount of soil; wax plant (Hoya), which is a slow starter, but is a beautiful plant for this use; passion-vine (Passiflora), which has excellent foliage and pink, white or purplish blossoms; and the hardy sweet potato vine, which is a favorite with children.

After the planting is done, the cord or wire is attached to the holes and the completed piece is ready for hanging. Remember, these pieces are made for observation as well as for display, so hang them in places where the children have easy access to them. And, last of all, remember the requirements of light for the individual plants when selecting sites for these hanging planters.



1. SLAB-BUILT planter shaped like a bird starts with patterns traced onto a rolled-out sheet of clay. Shape also could be sketched directly onto clay slab for a freer approach.

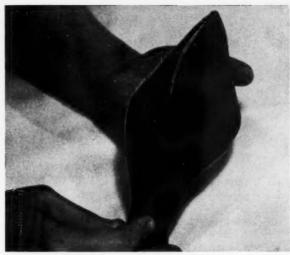


 CHUNKS of clay support the shape on a tile while the finishing work is done and prevent the plastic clay from sagging. Extra pieces are added before the clay form becomes leather hard.





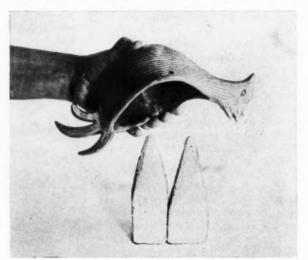
2. BOTTOM edges, which are to join one another, are cut at a sharp angle for a better fit. All joining sections are scored and coated with thick slip for the best and safest welding.



 THE JOINING seams are carefully pressed together and sealed to form the bottom of the planter. Hand support from inside gives counter-pressure and maintains the desired shape.



TEXTURED finish is given to the plastic clay with a section of coarse-toothed hacksaw blade. Holes for hanging are drilled or bored through the clay at this time.



 Bisque planter is glaze fired upside down on one or two pointed pieces of porous firebrick or on a shelf post. This allows the piece to be completely glazed on the outside.





ENAMELED EASTER

I HOPE that by the time this article is in your hands that "Free of ice are streams and brooks," to quote from Goethe's Faust. Almost as though it is compensation for the unbelievable winter we have had in New York, Easter comes very early this year, and I feel like celebrating. If you feel the same way, let's celebrate together by making Easter eggs!

You all know, I am sure, the beautiful enameled and jeweled Russian Easter eggs. These are exquisite things with which we can't be expected to compete. But I wonder whether you know about the Czechoslovakian and Polish folk-art eggs? These are charming objects, turned from wood or using real eggs with the inside matter blown out, painted or batiked with wax to resemble textiles. Pure design is used on most of these eggs, and if there is any representation (such as flowers or roosters), it is so highly stylized that it becomes pure ornament again.

Most of the wooden eggs have a hole running through from pole to pole, and colorful strings are laced through this and knotted as a method of suspending the egg from a stick. These resemble whips with dangling Easter eggs attached, and are used singly or in bunches for decoration.

We can make decorative, enameled Easter eggs, either those strongly influenced by folk art or in an entirely modern style. The basic copper shape is a problem I can help you with, and the decoration is, as always, up to your own inventiveness. Even in this latter area, I can offer some technical advice without any danger of influencing your design.

The complicated and wonderful Russian eggs are made by hammering out two halves of an egg, after which they are bezeled, lined and hinged. Now, this can be done! And I promise to have a column on making boxes some month. But this is a major operation and I have a less complicated method to present this time. These eggs can't be opened, but they are very decorative.



The first step in creating our enameled egg is to provide a pattern for cutting the sheet copper correctly. The easiest way to make a pattern is over an egg or an egg-shaped object. If you want your enameled egg the exact size of a real one, you can begin with a hard-boiled real egg. If you want a slightly larger size, start with a commercial plastic, wooden or papier-mâché product.

The pattern can be made from paper or any cloth scrap. However, I have found that tarlatan or even white crinoline is the best material to use because it is stiff enough to hold the creases that must be put in it and it also is transparent enough to see through while you work. Either of these materials is pliable and holds straight pins very securely. Now, don't think I have digressed and am going to teach dressmaking!

The pattern is made by selecting a strip of the material and pinning it tightly around the middle of the egg. Now, beginning where the two ends of the strip meet, crease the material on both ends to fit the egg beneath it to perfection. Next, pin these creases and, with a pencil, trace these creases carefully on the material (Figure 1). The more creases or darts you make, the rounder and smoother the finished egg will be. (For lazy people and non-perfectionists, four or five darts might be enough.) When the pins are removed, the patternmaking is done.

Cut out this cloth pattern and trace it onto a sheet of copper. On each straight area at the two ends of the pattern, add a little length for overlapping (Figure 2). Now, cut the copper, bend it into a cylinder shape, and hard solder where the overlapping ends meet (Figure 3). File this seam. The sharp points of the copper also must be filed off to make a hole in each "pole" of the egg. This can be

done at this stage of the work, or it could be done before the soldering process. This hole will act as an air escape so that the egg won't lose its shape in the firing. It also will be used to suspend the egg for firing and for display after it is finished.

Now, carefully press all segments together with a burnisher and the egg is in shape! After the sharp edges are filed to perfection, the enameling can be done.

You will need a special firing contraption for firing the egg. The easiest method is to make one from your firing rack. Simply cut a V- or U-shape in each end of the rack and use these as supports for the wire that holds the egg. Tie or twist together two pieces of strong binding wire and put these through the holes in the egg, and place the ends of the wire on the forks. Supported in this way, the egg cannot touch a support and become marred (Figure 4).

This, by the way, is the "mysterious" technique the Chinese employed for the marvellous beads and balls I mentioned in an earlier article. It truly is a marvel to make a piece absolutely round and done in cloisonne all over without an imperfection!

If you are interested in re-creating some of the folk-art effects in decoration, here is a hint: after applying a basic coat of white enamel, apply some patterns of stripes or patchwork-quilt in bright, light colors. Cover the whole egg with black overglaze and, when this is dry, scratch out some ornamental shapes or designs. They will appear as very vivid colors against a black background, and will look great!

Now, here is another amusing egg. I say "amusing" because it comes out with a crinkled surface. Form an egg shape from wax. Around this, form an egg from copper foil by squeezing and pinching the foil. When this is done, heat it and allow the wax to run out through an opening left for this purpose. Pickle and enamel, and it is done! Happy Easter!

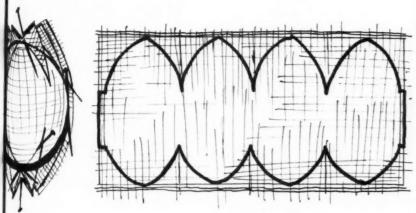
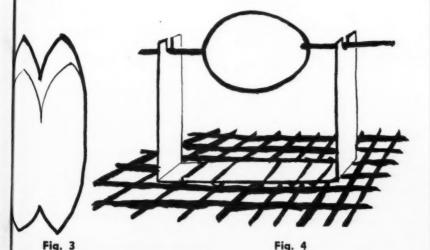


Fig. 1

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Fig. 2



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Continued from Page 26

dry white matt surface (left). Fired



to cone 04 (right), the frit melted into a pool of clear, colorless, shiny crystal glaze.

O. Hommel Frit #266, fired at cone 09, resulted in a flat pool of translucent glaze full of small bubbles und pits and with a rather sugary surface (left). A pinch of copper





carbonate in a test gave a good turquoise translucent glaze with depth and interesting possibilities. Fired at cone 04 (right), the frit gave a clear, colorless shiny pool of glaze.

Fritted Glaze Recipes

Suggested glaze recipes furnished by the manufacturers of various frits should give you some good glazes or furnish you with a starting point for experimenting on your own with fritted glazes.

CONE 2-6 GLOSS GLAZE

Ferro Frit #3525	66%
Kaolin	10
Flint	18
Zinc Oxide	6
	100%
CONE 1-4 GLAZE	
Ferro Frit #3497	92%
Kaolin	8
	100%
CONE 02-8 GLAZE	0000
Pemco Frit Pb-309	92%
Kaolin	8
	100%
CONE 1-6 MATT GLA	ZE
Pemco Frit Pb-740	85%
Milled Alumina	5
Kaolin	10
	100%

An excellent booklet giving information on fritted glazes is available if you use your studio or school letterhead when writing to inquire about it. There are glazes listed that fire from cone 08 up to cone 11. This ceramic bulletin, called "Tam Zirconium Glazes," is issued by the Titanium Alloy Mfg. Division of the National Lead Company. •

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AMONG OUR AUTHORS

Mrs. Irene Kettner is a native of Min-



nesota and a graduate of Mankato State College, where she first became interested in ceramics while earning her degree in Elementary Education. She has since taken pottery work at the University of Washing-(Mass). Craft Cen-

ton, at the Worcester (Mass.) Craft Center under Verdelle Gray, and from Nan and James McKinnell at Old Deerfield, Mass. Mrs. Kettner writes: "My main interest is working on the wheel which my husband built. For the past year I have been experimenting with glazes and various methods of decorating." She has exhibited her work at Minneapolis, Springfield (Mass.) and at the National Pageant of Ceramics at Chicago.

MISSISSIPPI VALLEY SHOW

Fern Branstetter, publicity chairman of the Mississippi Valley Ceramic Association, announced that the fourth annual show will be held May 13 and 14 at the Masonic Temple at Rock Island, Ill. She writes: "We have approximately 75 members in our club and it is fairly active. At the present time our only plans are to make this Fourth Annual Show a howling success!" The general show chairman and club secretary is Mrs. Bernard Runge. Mrs. Ernest Jahn is president and Mrs. Albert Cantwell is treasurer of the group.

TIFFANY SCHOLARSHIP

The Tiffany scholarships, awarded annually in the fields of fine arts and crafts by the Louis Comfort Tiffany Foundation, include a rotating grant in four craft fields—ceramics, textile, stained glass and metal. This year the craft competition is in the area of ceramics, and experienced professional craftsmen who are U.S. citizens may compete. The scholarship amounts to about \$2000 to be used for study and travel wherever the recipient desires. Application forms are available from: The Louis Comfort Tiffany Foundation, 1083 Fifth Ave.. New York 28.

LEE R. DUNCAN

Word has been received of the death on January 18 of Lee R. Duncan. Mr. Duncan was the president of Duncan Cer ramic Products, one of the oldest manufacturing firms in the hobby supply business.

MEMBERS SEE MOLDS MADE

At the January 15 meeting of the Pittsylvania Ceramic Guild, members witnessed a demonstration of mold making by Al Schoellkopf. Guild members were shown a method for creating original molds for making ceramic pieces. Mr. Schoellkopf, who has been teaching his own special mold-making process for several years at national ceramic shows, is one of the few mold makers in the Pittsburgh area. A question and answer period followed the demonstration.

HOUSE OF CLAY

The new showroom for Design-Technics in New York City is literally a "house of clay." The building's facade, the inner walls, space dividers, lamps and accessories are all examples of ceramic artistry. The firm makes a wide variety of ceramic products for architectural use, ranging from wall surfacings and floor-to-ceiling pierced screens to accessories for decorating. The accompanying photograph shows a mural



in the window of the new showroom. A spontaneous expression of pure form and texture, the unglazed piece is an example of the work that is carried out in commissions of large scale by Design-Technics.

SAN FRANCISCO EXHIBITION

The Association of San Francisco Potters held its 11th Annual Exhibition at the M. H. DeYoung Memorial Museum in December. The Association is one of the oldest craft organizations in the Bay Area and the largest one devoted exclusively to potters. The first award in pottery went to Edward Cromey for his footed bottle. Peter Voulkos won the sculpture award with his Image for Graves. Award pottery is shown in the photograph. In the fore-



ground is a footed bowl by Helen Peek; from left to right are pieces by Edward Cromey, Edwin A. Cadogan, Charles McKee, Roy Walker, Bert Borch and Alan Meisel. Jurors for this event were Bruce Anderson, Marcia Chamberlain, Graham Keith and Paul Soldner.

MIDWEST ASSOCIATION MEETING

Studio owners from Ohio and Indiana who comprise the Midwest Ceramic Association held their meeting at Fostoria, Ohio, on October 9. Members toured the Marbar Studio, owned by Mr. and Mrs. Barrett Brown. A feature of the event was the judging of ceramic trophies designed and exhibited at the meeting. Mrs. Hinkey, Dayton, was named the winner; her trophy design will be used for the various shows that the association stages throughout the year. President of the group is John Garwood, New Lebanon, O. Marie Smith is the publicity director.

COLOR SLIDES AVAILABLE

The DePauw University Art Center is offering a set of 36 color slides of pottery, ceramic sculpture and enamels which have been shown in the two DePauw Ceramic Shows. These may be borrowed by any high school or college for use as instructional aids, and there is no charge except for about sixty cents for postage and insurance to the next destination. Schools should specify the approximate date when slides are wanted and an alternate date. Write to: Richard Peeler, DePauw University Art Center, Greencastle, Ind.

Continued on Page 34

Willoughby

Cherub Molds for wall plaques



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CeramActivities

Continued from Page 33

JUDGES FOR SACRAMENTO SHOW

California artists are invited to enter the second California Crafts Exhibition to be held at the E.B. Cracker Art Gallery in Sacramento. The show, sponsored by the Creative Arts League, will be held March 18 through April 23. Judges will be Peter Voulkos, potter and painter; Jean Buckley, sculptor and enamelist; Kay Sekimachi designer and weaver; and Daniel Nacht, architect. Details for entry can be found in this month's Intinerary.

NEW CRAFTS OUTLET

A new outlet for the work of artists and craftsmen will open in St. Louis next October. Called Young Americans Gallery, its object is to show the work of good painters, sculptors and craftsmen from around the country. Craftsmen who are interested in being represented here should send slides or color photographs of their work as soon as possible, along with thumbnail sketches of their backgrounds. More information may be obtained by writing to Shirley Fink, 6152a Delmar Ave., St. Louis 12, Mo.

SEND NEWS, and photos if available, about "People - Places Things" you think will be of ceramic interest. Our CeramActivities editor will be glad to consider them for this column.

Letters

Continued from Page 6

thing of beauty to help make life a bit more livable. In this age, as never before, art has been drawn to the people and the people to art. Galleries have sprung up everywhere, and museums are losing the quality of mausoleums. People from every walk of life discuss art and ask questions about that which they do not understand. More people are buying art objects for their homes, and this comes about through an increased understanding of, and identity with, the arts. Don't you agree that these are healthy signs in our

MARC BELLAIRE Carrollton, Va.

INDEX WANTED

Why, oh why, don't you make a cross index for CM? I have spent much time looking up articles in my back issues which I would rather have devoted to getting my hands in the clay. Come on and cough up and I will be the first to send for one for the back years.

MRS. S. T. B. JOHNSON Springfield, Va.

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Itinerary

Continued from Page 11

due April 27 and entries must be in by May 4. Entry blanks may be obtained by writing: Mrs. R. G. E. Steever, 3458 Chestnut Drive, Doraville.

ILLINOIS, ROCK ISLAND May 13-14

*Fourth Annual Mississippi Valley Ceramic Show at the Masonic Temple will feature both professional and hobby exhibits. The competition is open to every-one whose work falls into the outlined categories. For more information, write: Fern Branstetter, 1654 W. Lombard St., Davenport, Iowa.

MICHIGAN, DETROIT May 4-7

*Ceramic National Trade Show and Workshop, at Cobo Hall, will feature amateur competitions in all major categories of ceramic work, as well as demonstrations by leading authorities. For information concerning show entry, write: Arthur E. Higgs, 332 Schearer Bldg., Bay City, Mich.

NEW JERSEY, ASBURY PARK May 18-21

*Ninth Annual Eastern Ceramic Show, at Convention Hall. "Pageant of Techniques" will feature free morning demonstrations by nationally-known ceramic artists. For information on the National Amateur Exhibit, write: Ceramic Expositions, Inc., Convention Hall, Asbury Park.

OHIO, DAYTON April 22—23

Third Annual Ceramic Show presented the Midwest Ceramic Association (Ohio and Indiana) at Memorial Hall. Competitive hobby display and demonstrations by nationally-known artists. For entry information write: George Glisson, 1816 Maplegrove Ave., Dayton 14.

WHERE TO GO

CALIFORNIA, SACRAMENTO

March 18—April 23 Second Biennial California Craft Exhibition, at the E. B. Crocker Art Gallery.

CALIFORNIA, STANFORD

March

"Arts of Southern California-VI: Ceramics," circulated by the Western Association of Art Museums, at the University Art Gallery.

ILLINOIS, CHAMPAIGN

through April 2

'American Crafts-New Talent," at the University of Illinois Krannert Art Museum.

ILLINOIS, CHICAGO

through April 2 "The Arts of Denmark," International Loan Exhibition, includes ceramics, glass and metalwork. At the Art Institute.

INDIANA, LAFAYETTE
March 15—April 16
"Enamels," Smithsonian Traveling Exhibition, at the Purdue University Li-

IOWA, DES MOINES

March 17—April 9
Fifth Midwest Biennial Designer-Crafts-

Continued on Page 36

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Itinerary

Continued from Page 35

men Exhibition, at the Des Moines Art Center.

IOWA, SIOUX CITY through March 8

"Area Artists Show" features work in all mediums by amateur and professional artists. At the Commerce Building.

MASSACHUSETTS, BROCKTON

through March 10

Fourth Annual Winter Show, sponsored by the Brockton Art Association, at the Art Association.

NEBRASKA, OMAHA through March 12

Fifth Midwest Biennial Designer-Craftsmen Exhibition, at the Joslyn Art Museum

NEW YORK, BINGHAMTON

through March 26
21st Ceramic National, at the Roberson Memorial Center.

NEW YORK, BROOKLYN through April 23

'Masters of Contemporary Crafts" exhibition includes work of potters Ed-win Scheier and Franz Wildenhain, and enamelists Kenneth Bates and Carl Drerup. At the Brooklyn Museum.

NEW YORK, NEW YORK

March 5-25

'The Argilartists' exhibition includes pottery, ceramic sculpture and enamels. At Greenwich House, 16 Jones St.

NEW YORK, SYRACUSE

March 17—April 9 Ninth Regional Art Exhibition, at the Everson Museum of Art.

OHIO, AKRON March 10—April 16

38th Annual Spring Show of Artists and Craftsmen of the Akron Area, at the Akron Art Institute.

OHIO, DAYTON

through March 19

Artists of Ohio Exhibition includes ceramics and sculpture, at the Dayton Art Institute.

ONTARIO, TORONTO

April

Fourth Annual Canadian Ceramics Exhibition," sponsored by the Canadian Guild of Potters, the Potter's Club of Montreal, the Canadian Handicraft Guild and the British Columbia Potter's Club. At the Royal Ontario Museum.

PENNSYLVANIA, PHILADELPHIA

March 15—April 9
Enamels by Edward and Thelma Winter, at the Philadelphia Art Alliance.

PENNSYLVANIA, PITTSBURGH through March 15

"Japanese Design Today," Smithsonian Traveling Exhibition, at the Carnegie Institute Department of Fine Arts.

TENNESSEE, CHATTANOOGA

March 1-31

"Design in Germany Today," Smithsonian Institution Traveling Exhibition, at the Hunter Gallery of Art.

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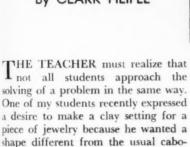
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COMBINING CLAY AND METAL

by CLARK HEIPLE



In addition to this unusual approach to the problem, the student also set about the solving of the design in a manner that might seem unorthodox to some teachers. Instead of planning and drawing the design in advance on paper, Earl worked directly with the materials themselves.

chons available in stone.

Working in this manner, the student learns more about the inherent characteristics of his materials and gains an awareness of what can and what cannot be expected from them. Some students prefer this approach, and others like the drawing or visual concept of design. The good teacher will allow an individual to work in either or both methods.

Earl first selected a piece of 20-gauge copper cut into a strip 3/16 inches wide. He bent this in various ways until he achieved a closed shape that pleased him. His next step was to silver-solder the ends of the copper strip together to form a bezel to hold the clay jewel. The soldered strip was placed on the table and a wad of plastic clay was pushed into the bezel. This clay was allowed to dry, after which it was removed from the metal frame and then cleaned. The next



step was to glaze and fire it, all in one operation. Earl made many of these clay shapes from this bezel; he also created his own glazes and tested them on the clay pieces.

During the time he had to wait until his glazed work was fired, Earl worked on designs for the background or setting for his improvised "stones." He had decided to use the jewel to make a pendant or pin shape. He worked with cut-out pieces of colored construction paper until he was satisfied with background shapes that harmonized with the shape he had made for his clay jewel.

His next step was to glue these paper shapes onto pieces of copper and brass and then saw out these shapes. The two cleaned pieces of metal were silver-soldered together, then the bezel was soldered into the selected place to complete the metal work on this project.

Because the clay had shrunk during the drying and firing processes, the finished jewel (selected from among the glaze experiments) fitted loosely in the bezel. To hold the jewel tightly in place, Earl turned the edge of the bezel inward slightly at the top until it fitted firmly over the jewel.

The finished piece of jewelry was a success not only in design but also in the creative combination of materials. Because of this initial success, Earl has gone on to experiment with other possibilities in this approach of combining clay with metal.

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SUMMER WORKSHOPS

SUMMER WORKSHOPS give you that wonderful opportunity to combine vacation travel with hobby fun. Whether you are tripping east or west or only a little ways from home, you'll find a workshop in ceramics to give you that fresh inspiration. Our list to date:

CALIFORNIA, GUERNEVILLE June 26-August 25

The Pond Farm Pottery offers its 12th year of instruction in pottery techniques for both beginners and advanced students. Located in the hills 75 miles north of San Francisco-an area of beauty and unlimited outdoor activity as well as ceramic work. Write Marguerite Wildenhain, Pond Farm Pottery.

CONNECTICUT, NEW CANAAN June 26—August 22

Silvermine Guild School of Art plans an eight-week course in ceramics, ceramic sculpture and mosaics. Instructor: Tauno Kauppi. Write: Silvermine Guild School of Art, New Canaan.

INDIANA, INDIANAPOLIS June 19-August 4

Amaco Ceramic Workshops are offering one and two-week workshops in ceramics and metal enameling at the John Herron Art School. Graduate and undergraduate credit. Instructors: Kenneth E. Smith, Justin M. Brady, Knowlton Farr and guest demonstrator Karl Martz. For details, write: American Art Clay Co., 4717 West 16th St., Indianapolis 24.

MICHIGAN, EAST LANSING June 19-July 26

Michigan State University is offering credit courses in pottery design, glazes, and stacking and firing a kiln. Instructor: Dr. Irwin A. Whitaker. For details, write: Art Department, Kresge Art Center, Michigan State U., East Lansing.

NEW YORK, CHAUTAUQUA July 10-August 18

Chautauqua Center of Syracuse University will hold two three-week sessions: July 10—28 and July 31—August 18. Instructor: James Achuff of Syracuse University. Instruction will cover problems and techniques in pottery and ceramic sculpture. Write: Director, Chautauqua Center of Syracuse University, 610 E. Fayette St., Syracuse 3, N.Y.

NEW YORK, NEW YORK June 5—July 28

Craft Students League offers in ceramics: coil and slab methods, casting, throwing on wheel, decorating, carving, modeling, underglazes, figurines; advanced work in earthenware and stoneware; and enameling. Instructors: Roberta Leber, Gertrud Englander, Adda Husted-Anderson, Mildred Downey and Margaret Sussman, For details, write: Helen T. Warner, Director, Craft Stu dents League, 840 Eighth Ave., New York 19.

WISCONSIN, MADISON June 20-August 11

The University of Wisconsin is scheduling 8-week courses in beginning and advanced ceramics. Instructor: Clyde Burt. Write: Dep't. of Art and Art Education, University of Wis., Madison 6.

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